No. 840,195. PATENTED JAN. 1, 1907.

W. D. BERRY.

BOSH PLATE.

APPLICATION FILED MAY 25, 1906.

Fig. 1.

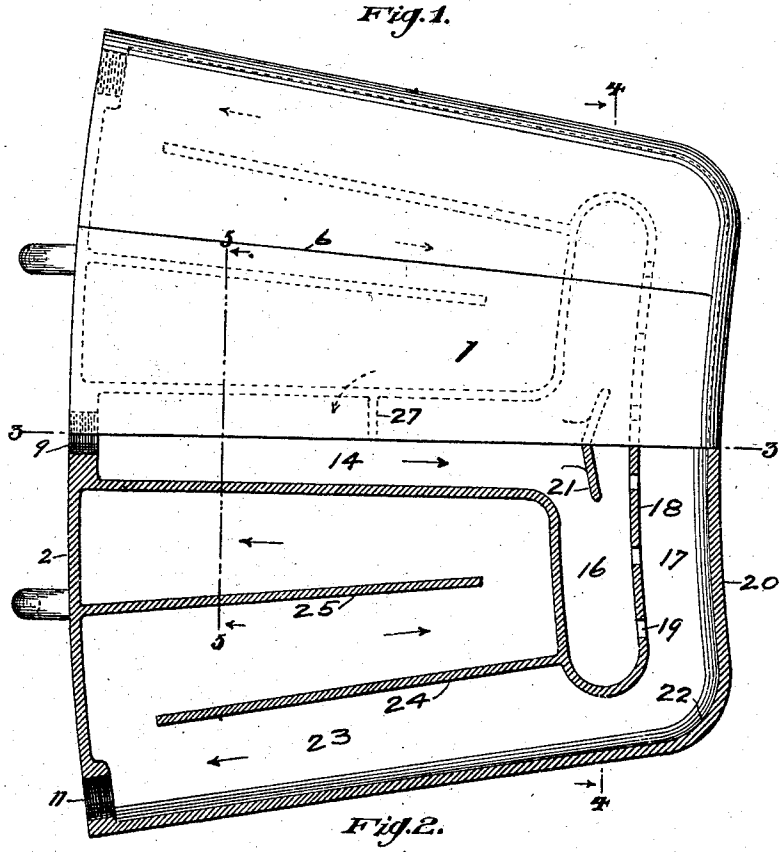
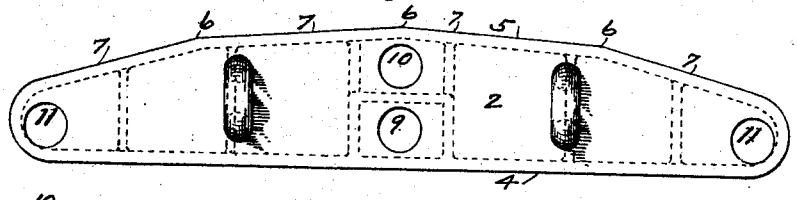


Fig. 2.



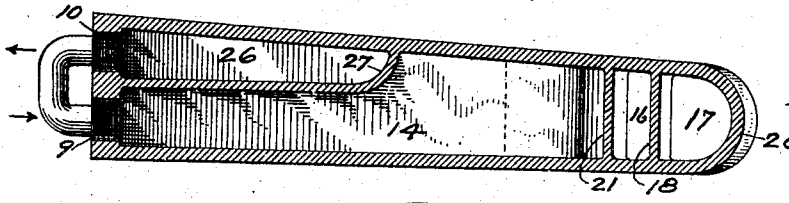


Fig. 3.

Fig. 4.

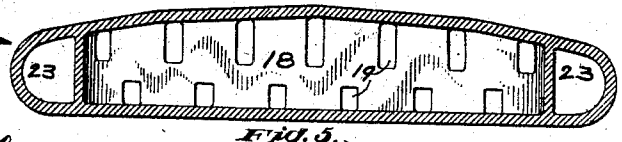
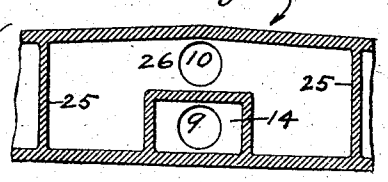


Fig. 5.



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BOSH-PLATE.

No. 840,195. Specification of Letters Patent. Patented Jan. 1, 1907.

Application filed May 25, 1906. Serial No. 318,631.

To all whom it may concern:

Be it known that I, WILLIAM D. BERRY, a citizen of the United States, residing at New Brighton, in the county of Beaver and State of Pennsylvania, have invented a new and useful Improvement in Bosh-Plates, of which the following is a specification.

This invention relates to what is known as "bosh-plates" for blast-furnaces and the like; and the object is to provide a plate of this kind in which the water circulating through the same is so directed as to project the cold water against the whole inner end or nose of the plate and also to keep the dirt and sediment from collecting at the corners of the plate.

The invention comprises an arrangement of parts hereinafter described and claimed.

In the accompanying drawings, Figure 1 is in part a plan view and in part a horizontal section of the plate. Fig. 2 is an outer end view of the same. Fig. 3 is a longitudinal section on the line 3 3, Fig. 1. Fig. 4 is a transverse section on the line 4 4, Fig. 1; and Fig. 5 is a similar section on the line 5 5, Fig. 1.

This plate will be cast of any suitable metal, preferably bronze or copper, as is now the case, and is formed as a hollow or recessed body 1 of substantially the shape shown, being tapered from its outer end 2 in both directions, so as to form a natural stiff support for the masonry. The lower face of the plate 4 is preferably substantially straight, while its upper face 5 is arched, but on straight lines, as shown, said lines changing direction at the points 6, so as to form a series of flat faces 7 to facilitate the laying of brick or other masonry thereon. The rear or outer wall of the plate is provided with an inlet-opening 9, an outlet-opening 10, located, preferably, centrally of the width of the plate, and at each end with cleaning-openings 11, normally closed by suitable plugs. (Not shown.)

The body of the plate is hollow, as is the usual custom, and is provided with suitable walls for directing and distributing the flow of water. The inlet-opening 9 communicates with a passage 14, extending along the bottom of the plate toward the front end thereof, this passage at its rear portion being for only about half the height or thickness of the plate, as shown in Fig. 3, and then deepening to the full height or thickness of the plate and its front or forward end spreading out to form the wide distributing-chamber 16. This distributing-chamber 16 is separated from a passage or chamber 17 in the nose of the plate by a wall 18, provided with perforations 19, so as to direct the water in jets or streams against the front or nose wall 20 of the plate. The openings are shown as oblong vertically, Fig. 2; but obviously they may be of any desired shape. In the distributing-chamber 16 is a suitably-curved or double inclined deflecting member 21, which causes the cold water coming through the passage 14 to be divided and directed toward both sides of the plate. Consequently cold water is directed against all portions of the nose-wall 20 of the plate, thus keeping it as cold as possible. Furthermore, the water being directed in jets against said wall prevents the deposit of dirt and other sediment and especially at the angles 22 at the front corners of the plate.

The water directed against the nose-wall of the plate flows backwardly on each side in the side passages 23 and then is directed in a circuitous path by the baffle-walls 24 and 25, and finally reaches the outlet-opening through a passage 26, located above the rear end of the inlet-passage 14 and whose front end is defined by the curved transverse wall 27, running to the top wall of the plate.

The plate is made by casting and coring in the usual way. By the construction shown cold water is directed against the whole front surface or nose of the plate, and the flow of the water is such that the deposit of dirt or sediment, and especially at the front corners, is prevented. The plate can be readily cleaned when necessary through the cleaning-openings 11. The top being tapered or arched in straight lines facilitates the laying of masonry on the same. This plate can be applied in any way of applying prior forms of bosh-plates.

What I claim is—

1. A bosh-plate comprising a recessed body having inlet and outlet openings, a passage from the inlet-opening toward the nose of the plate, and a spreader at the forward end of the passage arranged to divide the stream and direct the same toward both sides.

2. A bosh-plate comprising a recessed body having inlet and outlet openings, and a passage from the inlet-opening toward the

nose of the plate and ending in a laterally-enlarged distributing portion separated from the nose of the plate by a perforated wall.

3. A bosh-plate comprising a recessed body having inlet and outlet openings, the inlet-opening communicating with a passage extending toward the nose of the plate and ending in a laterally-enlarged distributing-chamber, a perforated wall between said chamber and the nose-wall of the plate, and a spreader in said chamber opposite the end of the passage coming from the inlet-opening.

4. A bosh-plate comprising a recessed body having inlet and outlet openings arranged centrally of the plate, said inlet-opening communicating with a passage extending toward the nose of the plate, other passages located at the sides of the plate and leading from the nose portion of the plate, and baffle-walls extending longitudinally of the plate and forming circuitous passages from the side passages to the outlet.

5. A bosh-plate comprising a recessed body having inlet and outlet openings, said inlet-opening communicating with a passage extending centrally of the plate toward the front end thereof and ending in a laterally-enlarged distributing-chamber, a perforated wall separating said distributing-chamber from the nose of the plate, and a passage located at each edge of the plate and leading from the forward corners of the plate to the exit-opening.

6. A bosh-plate comprising a recessed body provided with inlet and outlet openings near its central portion and washout-openings near each side, and having a baffle-wall on each side forming with the side walls restricted passages and extending from the washout-openings to the front corners of the plate.

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